

**CLAIMS**

- 1.- A method for detecting rotation of a rotor of a multiple phase motor with bipolar drive the motor comprising at least a first and a second energisable motor stator winding, the method comprising sequentially and alternately  
5 sensing a voltage on the first and the second motor stator winding at or near the end of a period of a non-energised state thereof.
- 2.- A method according to claim 1, wherein the sensing of the voltage on the first respectively second motor stator winding is carried out during energising of the second respectively first motor stator winding.
- 10 3.- A method according to claim 1, wherein the sensing has a fixed or adjustable relative position in a non-energised state time-window.
- 4.- A method according to claim 1, furthermore comprising storing sensed voltage values in a memory device.
- 5.- A method according to claim 4, furthermore comprising sensing multiple  
15 voltage samples, and storing the multiple samples in the memory device.
- 6.- A method according to claim 1, wherein the motor is driven in microstepping operation.
- 7.- A method according to claim 1, wherein the voltage is a back EMF.
- 8.- A method according to claim 1, furthermore comprising outputting a  
20 detection signal indicative of a stalled condition of the motor.
- 9.- A method according to claim 1, furthermore comprising outputting a detection signal indicative of a rotation of the motor rotor or derivatives thereof versus time.
- 10.- A method according to claim 1, where for sensing the voltage a unipolar  
25 signal is measured across one non-energised motor stator winding by connecting one terminal of the motor stator winding to a fixed or reference potential while measuring the voltage at an other terminal of that non-energised motor stator winding.
11. A method according to claim 1 excluding a three-phase motor with bipolar  
30 drive with star connected coils.
- 12.- An apparatus for detecting rotation of a rotor of a multiple phase motor with bipolar drive, the motor comprising at least a first and a second

energisable motor stator winding, the apparatus comprising means for sequentially and alternately sensing a back electromagnetic force on the first and the second motor stator winding at or near the end of a period of a non-energised state thereof.

- 5 13. An apparatus according to claim 12, excluding a three-phase motor with bipolar drive with star connected coils.
14. An apparatus according to claim 12, wherein the means for sequentially and alternately sensing has means for sensing of the voltage on the first respectively second motor stator winding during energising of the second  
10 respectively first motor stator winding.
- 15.- An apparatus according to claim 12, wherein the means for sequentially and alternately sensing has a fixed or adjustable relative position in a non-energised state time-window.
- 16.- An apparatus according to claim 12, furthermore comprising means for  
15 storing sensed voltage values.
- 17.- An apparatus according to claim 12, means for sensing has means for sensing multiple voltage samples, further comprising means for storing the multiple samples.
- 18.- An apparatus according to claim 12, furthermore comprising means for  
20 outputting a detection signal indicative of a stalled condition of the motor.
- 19.- An apparatus according to claim 12, furthermore comprising means for outputting a detection signal indicative of a rotation of the motor rotor or derivatives thereof versus time.
- 20.- An apparatus according to claim 12, further comprising means for sensing  
25 a unipolar signal across one non-energised motor stator winding by connecting one terminal of the motor stator winding to a fixed or reference potential while measuring the voltage at an other terminal of that non-energised motor stator winding.